Claims

We claim:

1. A method for providing estrogen replacement therapy to a patient while minimizing undesirable side effects associated with estrogen treatment or therapy, wherein said method comprises administering to the patient an effective amount of a quinol that is converted to a biologically active estrogen compound *in vivo*.

2. The method according to claim 1, wherein the quinol is converted to the biologically active estrogen compound via enzyme-catalyzed reduction.

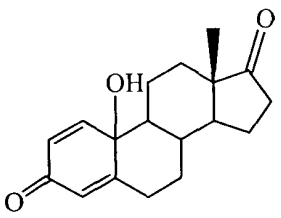
3. The method according to claim 2, wherein the enzyme catalyzed reduction occurs with NADH as a reducing agent.

4. The method according to claim 2, wherein the enzyme catalyzed reduction occurs with NADPH as a reducing agent.

5. The method according to claim 1, wherein the undesirable side effect is excessive estrogenic uterine tissue stimulation.

6. The method according to claim 1, wherein the undesirable side effect is excessive estrogenic breast tissue stimulation.

7. The method according to claim 1, wherein the quinol has the general structure:



8. The method according to claim 1, further comprising administering the quinol by a route selected from the group consisting of oral, buccal, intramuscular, transdermal, intravenous, and subcutaneous.

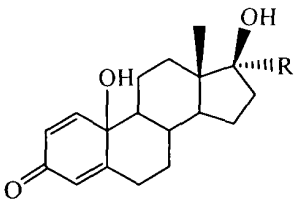
9. The method according to claim 1, wherein the quinol is regenerated when the biologically active estrogen compounds capture a free-radical reactive oxygen species.

10. The method according to claim 1, wherein the biologically active estrogen compounds are provided to the patient for the treatment or prevention of symptoms, diseases, or conditions associated with menopause.

11. The method according to claim 10, wherein the biologically active estrogen compounds are provided to the patient for the treatment or prevention of conditions associated with the bone.

12. The method according to claim 10, wherein the biologically active estrogen compounds are provided to the patient for treatment or prevention of conditions associated with heart disease.

13. The method according to claim 1, wherein the quinol has the general structure:



wherein R is selected from the group consisting of H and ethynyl.